We claim:

1. An optical communications network, comprising:

a source node and a sink node;

a sub-network comprising a plurality of sub-network nodes, the sub-network being provided in a path between the source node and the sink node;

a tandem connection monitoring arrangement provided at first and second edges of the sub-network for monitoring errors introduced by the sub-network, wherein the tandem connection monitoring arrangement at the first edge provides error information with the optical data passing through the sub-network, wherein the error information includes an error count or a first alarm indication indicative of an incoming fault,

wherein at least one of the sub-network nodes is provided with a sub-network monitoring arrangement, wherein when the sub-network monitoring arrangement identifies a fault, a second alarm indication indicative of a fault is provided as the error information, and wherein the tandem connection monitoring arrangement at the second edge, upon receipt of the second alarm indication, replaces the second alarm indication with a fault indication.

2. A network as claimed in claim 1, wherein when a sub-network monitoring arrangement provides a second alarm indication, an alarm message is provided to a network control centre.

3. A network as claimed in claim 2, wherein when a sub-network monitoring arrangement receives data already having a second alarm indication, no alarm message is provided to the network control centre.

4. A network as claimed in claim 1, wherein the error information comprises bit interleaved parity violation information or an incoming alarm indication signal.

5. A network as claimed in claim 1, comprising a SONET or SDH network.

6. A network as claimed in claim 5, wherein the tandem connection monitoring arrangement inserts error information into the N1 or N2 byte.

7. A network as claimed in claim 6, wherein the tandem connection monitoring arrangement inserts error information into the IEC bits of the N1 byte.

8. A method of monitoring errors in an optical communications network, comprising a source node and a sink node, and having a sub-network comprising a plurality of sub-network nodes provided in a path between the source node and the sink node, the method comprising:

providing error information with optical data to be passed through the sub-network at a tandem connection monitoring arrangement at a first edge of the sub-network, the error information including an error count or a first alarm indication indicative of a fault;

at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information; and

at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm indication with a fault indication.

9. A method as claimed in claim 8, wherein when a second alarm indication is provided, an alarm message is provided to a network control centre.

10. A method as claimed in claim 9, wherein when a sub-network node receives a header already having a second alarm indication, no alarm message is provided to the network control centre.

11. A method as claimed in claim 8, wherein the error information comprises bit interleaved parity violation information or an incoming alarm indication signal.

12. A method as claimed in claim 8, wherein the network comprises a SONET or SDH network.

13. A method as claimed in claim 12, wherein the error information is inserted into

the N1 or N2 byte.

14. A method as claimed in claim 13, wherein the error information is inserted into the IEC bits of the N1 byte.

15. A optical packet structure for use in an optical network in which a tandem connection monitoring arrangement provided at first and second edges of a sub-network for monitoring errors introduced by the sub-network, the packet structure comprising an optical header and an optical data payload, wherein the header comprises a tandem connection monitoring byte which includes a plurality of incoming error counter bits, wherein the incoming error counter bits can be set to:

a first series of values which represent different numbers of errors;

a second value representing a first alarm signal indicating a fault external to the sub-network; and

a third value representing a second alarm signal indicating a fault internal to the sub-network.

16. An optical packet structure as claimed in claim 15, wherein the tandem connection monitoring byte comprises the SONET or SDH N1 or N2 byte.

17. A computer readable medium carrying instructions for controlling nodes of an optical communications network comprising a source node and a sink node, and having a sub-network comprising a plurality of sub-network nodes provided in a path between the source node and the sink node, the instructions implementing a method comprising:

providing error information with optical data to be passed through the sub-network at a tandem connection monitoring arrangement at a first edge of the sub-network, the error information including an error count or a first alarm indication indicative of a fault;

at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information; and

at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm

indication with a fault indication.